## REMARKS/ARGUMENTS

Claims 1,2, 5 - 13, 15, and 22 - 34 are pending.

Claims 16-21 were withdrawn.

By the present amendment, claims 5 – 13 and 15 have been amended to change the dependency from claims 1, 2, 3, or 4 to claims 1 or 2. Claims 13 has been amended to refer to change the phrase "chosen from hydrocarbon polymers, where the polymer material has" to "at least one material is a polymer having". Claims 24 and 26 have been amended to delete "zirconia,".

The rejection of claims 13 and 28 under 35 U.S.C. §112, first paragraph, is believed overcome by the amendment to claim 13 in which the phrase "chosen from hydrocarbon polymers, where the polymer material has" to "at least one material is a polymer having". Support for the material being a polymer is in original claims 13 and 14:

> "13. A composite as in claims 1, 2, 3, or 4, in which the compressive stresses arise during cooling from a processing temperature to room temperature, caused by the differential strain induced by the differential thermal contraction coefficients of the different materials used to form the composite; and in which the materials are not ceramics such as oxides, carbides, nitrides, and borides, but are materials chosen from a group of materials known as polymers, where one polymer would have a lower thermal contraction coefficient relative to the other polymer(s).
>
> 14. A composite as in claims 1, 2, 3, or 4, in which the compressive stresses arise during cooling from a processing temperature to room temperature, caused by the differential strain induced by the differential thermal contraction coefficients of the different materials used to form the composite; and in which the materials are not either ceramics or polymers, but are at least two materials chosen from a group of materials known as metals, where one metal would have a lower thermal contraction coefficient relative to the other metal(s)." (emphasis added)

The limitation"another material" is found in original claims 10 and 11:

> "10. A composite as in claims 1, 2, 3, or 4, in which the compressive stresses arise during cooling from a processing temperature to room temperature, caused by the differential strain induced by the differential thermal contraction coefficients of the different materials used to form the composite; and in which the

materials are chosen from a list that includes at least two materials that do not react together to form a third material, but have differential thermal contraction coefficients such that compressive stresses would arise in one of the materials during cooling from a processing temperature, this list including, but not limited to, alumina ($Al_2O_3$), zirconia ($ZrO_2$), mullite (3 $Al_2O_3$ : 2 $SiO_2$), silicon nitride ($Si_3N_3$), silicon carbide (SiC), and titania ($TiO_2$); and in which the material(s) that do(es) not contain the compressive stresses do(es) contain another material that would impart an additional property important to mechanical strength and thus optimize factors that affect threshold strength that include, but are not limited to, controlling grain growth, changing the coefficient of thermal contraction, and changing the elastic modulus.

11. A composite as in claims 1, 2, 3, or 4, in which the compressive stresses arise during cooling from a processing temperature to room temperature, caused by the differential strain induced by the differential thermal contraction coefficients of the different materials used to form the composite; and in which the materials are chosen from a list that includes at least two materials that do not react together to form a third material, but have differential thermal contraction coefficients such that compressive stresses would arise in one of the materials during cooling from a processing temperature, this list including, but not limited to, alumina ($Al_2O_3$), zirconia ($ZrO_2$), mullite (3 $Al_2O_3$ : 2 $SiO_2$), silicon nitride ($Si_3N_3$), silicon carbide (SiC), and titania ($TiO_2$); and in which the material that contains the compressive stresses also can contain another material that would impart an additional property important to mechanical strength and thus optimize factors that affect the threshold strength that include, but are not limited to, controlling grain growth, changing the coefficient of thermal contraction, and changing the elastic modulus." (emphasis added)

The rejection of claims 5 – 13, and 15 under 35 U.S.C. §112, second paragraph, is believe overcome by the amendments to those claim changing the dependency in each case to claims 1 or 2.

The rejections under 35 U.S.C. §§102(a) and 103(a) are believed overcome by the amendments to those claims deleting reference to zirconia, it being evident that broader claims are patentable over McMeeking et al. in view of the earlier publication of applicant's paper, as referred to in the Examiner's response to applicants' prior amendment..

Applicants submit that the present claims are in condition for allowance. A Notice of Allowance is therefore respectfully requested.

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Respectfully submitted,

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